

CLAIMS

What we claim is:

1. A light guide comprising:
a light conducting substrate comprising,
 - a) a front surface;
 - b) a back surface; and
 - c) at least a first edge and a second edge that oppose each other;

wherein the back surface has disposed thereon light scattering elements;
wherein the light scattering elements are at least two different sizes
arranged in a pattern possessing at least a first axis of symmetry;
wherein at least the first edge and second edge receives light from at least
a first and second light source; and wherein the light sources are at least
substantially parallel to the axis of symmetry.

2. The light guide of Claim 1 wherein the light scattering elements
increase from a minimum size adjacent to the edges to a maximum size at
the axis of symmetry.

3. The light guide of Claim 1 wherein the first edge and the second
edge comprise a first pair of edges; and further comprising a third edge
and a fourth edge which oppose each other and comprise a second pair of
edges; wherein the edges of each pair are at least substantially parallel to
each other, and midway between the edges of the first pair, the first axis of
symmetry is formed, and midway between the edges of the second pair, a
second axis of symmetry is formed, wherein the first and second axes
intersect at an intersection, and wherein the light scattering elements
increase from a minimum size adjacent to the edges to a maximum size at
least substantially at the intersection of the axes of symmetry.

4. The light guide of Claim 1 wherein the first edge and the second
edge comprise a first pair of edges; and further comprise a third edge and
a fourth edge which oppose each other and comprise a second pair of
edges; wherein the edges of each pair are substantially parallel to each
other; wherein the edges of the first and second pair intersect to form
points; and midway between the edges of the first pair the first axis of

symmetry is formed, and midway between the edges of the second pair, a second axis of symmetry is formed, wherein the first and second axes intersect at an intersection, and wherein the light scattering elements for a pre-determined distance at the edges increase from a minimum size adjacent to the edges to a maximum size at least substantially the intersection of the axes of symmetry; and for a pre-determined area moving away from the points the light scattering elements decrease from a maximum size adjacent to the points to a minimum size for a pre-determined distance moving away from the points.

5. A light guide comprising:

a circular light conducting substrate comprising,

- a) a front surface;
- b) a back surface; and
- c) a side surface;

wherein the back surface has disposed thereon light scattering elements; wherein the light scattering elements are at least two different sizes arranged in a pattern possessing at least a first axis of symmetry; wherein the side surface receives light from a light source.

6. The light guide of Claim 5 wherein the light scattering elements increase from a minimum size adjacent to the side surface to a maximum size at least substantially the axis of symmetry.

7. The light guide of Claim 1 wherein the light scattering elements are in the size range of .015 to .07 inch.

8. The light guide of Claim 1 wherein the light source is a cold cathode fluorescent lamp.

9. The light guide of Claim 1 wherein the light conducting substrate is poly(methyl methacrylate).

10. A display comprising the light guide of Claim 1.

11. A display comprising the light guide of Claim 5.

12. The light guide of Claim 1 wherein at least the first and second edges are polished.

13. The light guide of Claim 5 wherein the side surface is polished.

14. The light guide of Claim 1 wherein the light scattering elements are formed with methods selected from media applications, producing roughened areas, cutting back areas, and making holes and projections.

15. A display comprising the light guide of Claim 1 and at least one layer selected from light transmissive sheet, recirculating polarizer, diffuser, polarizer, liquid crystal layer, and reflector layer.

16. The display of Claim 15 wherein the recirculating polarizer is a dual brightness enhancement film.

17. The display of Claim 15 wherein the light transmissive sheet is a brightness enhancement film.

18. A light guide comprising:

a light conducting substrate comprising,

- a) a front surface;
- b) a back surface; and
- c) at least a first edge and a second edge that oppose each other;

wherein the back surface has disposed thereon light scattering elements;

wherein the light scattering elements are at least two different sizes arranged in a pattern possessing at least a first axis of symmetry;

wherein at least one of the first and second edges receives light from at least one light source; and

wherein the at least one light source is at least substantially parallel to the axis of symmetry.